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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

November 24, 1998

**VIA HAND DELIVERY**

Ms. Magalie Salas, Secretary  
Federal Communications Commission  
1919 M Street NW  
Room 222  
Washington DC 20554

**Re: 1998 Biennial Regulatory Review — Amendment of Part 18 of the  
Commission's Rules to Update Regulations for RF Lighting Devices  
ET Docket No. 98-42**

Dear Ms. Salis:

Pursuant to Section 1.1206(a)(2) of the Commission's Rules, and on behalf of Harris Corporation, Symbol Technologies, Inc., and 3Com Corporation, I am filing the original and one copy of this letter to report an oral ex parte communication in the above-referenced proceeding.

Today Jim Zyren of Harris Corporation and I met with Paul Misener of Commissioner Furchgott-Roth's office.

Mr. Zyren described the present extent of Part 15 spread spectrum operations in the 2.4 GHz band, representing a market for wireless equipment alone of \$1 billion per year, and the far greater use of the band expected to arise through the Bluetooth and Home RF initiatives. He also discussed the threat to Part 15 operations presented by the introduction of new RF lighting devices into the band. Because the proponents of 2.4 GHz RF lighting had declined to share data with us, our analysis had to depend on the worst-case limits set by the RF safety rules, which predict very severe interference to Part 15 operations.

Mr. Zyren presented a specific suggestion for shielding at least some configurations of RF lighting equipment. His proposal would block 98% of the interfering RF radiation while passing 95% of the visible light, at a cost of pennies per unit. An attached slide, not presented at the meeting, shows the efficacy of shielding as a function of grid spacing.

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Ms. Magalie Salas, Secretary  
November 24, 1998  
Page Two


We did not ask the Commission to change Part 15's secondary status in the band. We did, however, argue that Section 303 of the Communications Act requires the Commission to manage the spectrum in the public interest, and that the public interest can change over time. We urged the Commission's to consider the public interest in Part 15 spread spectrum operations, and to set in-band emission limits compatible with the successful operation of both Part 15 and RF lighting.

Information presented at the meeting beyond that in the parties' filed comments appears in the attached handout materials.

Kindly date-stamp and return the extra copy of this letter.

If there are any questions about this filing, please call me at the number above.

Respectfully submitted,

  
Mitchell Lazarus

ML/dd  
Enclosure

cc: Mr. Paul Misener, FCC (by hand)  
Jim Zyren, Harris Corporation  
Ray Martino, Symbol Technologies, Inc.  
Scott Forsyth, Esquire, 3Com Corporation  
Jeff Abramowitz, 3Com Corporation  
Carlos Rios, 3Com Corporation  
David C. Jatlow, Esq.  
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Frank R. Jazzo, Esq.

# *Public Interest Benefits Derived from Part 15 Spread Spectrum Devices*

- **Market includes every major sector of U.S. Economy**
  - Healthcare (patient records, medication dosage)
  - Warehousing and manufacturing
  - Enhanced worker mobility (e.g. rental car return)
  - Retail (inventory control)
  - Telecommunications (building-to-building bridging)
  - Transportation
  - Public Safety
  - Education (campus wide mobile networking)
  - ***Current market >\$1 Billion/year for Part 15 wireless devices***
- **Emerging Markets**
  - Enterprise & Home networking
  - Wireless Internet Distribution (especially in rural areas)

## *Implications of RF Lighting @ 2.45 GHz*

- Part 15 Spread Spectrum (15.247) and Low Power (15.249) services will suffer serious disruption.
- RF Lighting devices can be deployed in large numbers
  - Very high utilization (several hours per day)
  - Radiation limit bounded only by health & safety limits for heating of human body tissue
  - Devices can radiate well in excess of 8 watts in-band and be in compliance with applicable regulations
- 2.45 GHz band has global unlicensed allocation
  - North America, Europe, Japan, Spain, France
  - Allowing RF lighting to proliferate in US without emission limit effectively disrupts international use of this band

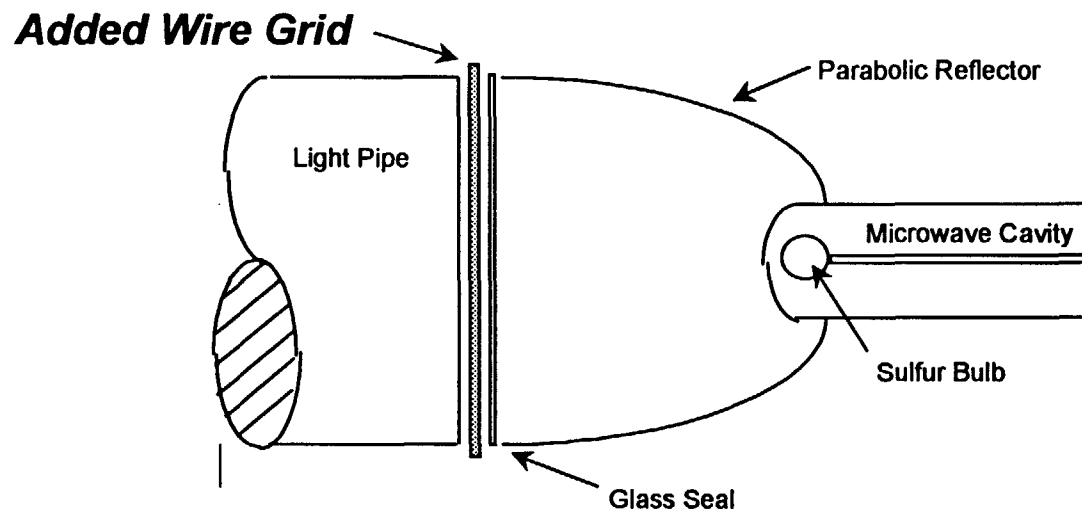
# *Harris Semiconductor's Position*

- Part 18 Rules were first written in 1946
  - FCC stated in NPRM that *“existing rules for RF lighting devices did not specifically contemplate RF lighting products that operate on microwave frequencies.”*
  - No out-of-band limits exist beyond 1000 MHz. Clearly these devices were not originally envisioned by the Commission when rules regarding RF lighting were adopted in 1985.
  - Other types of authorized Part 18 Devices are used individually. Lighting devices installed in multiple units per site.
- RF lighting devices represent a new type of device
  - In NRPM, FCC sought comment *“as to whether it may be necessary to establish in-band limits for RF lighting technology”*
  - RF Lighting devices should not be allowed to radiate without an in-band limit at microwave frequencies.

## *Harris Semiconductor's Position*

- By adoption of Part 15 Rules, FCC invited industry to develop equipment using the 2.45 GHz ISM Band
  - Industry has spent \$ Billions on FCC Part 15 compliance
  - The fact that Part 15 devices are not primary users does **not** mean that we have **no** standing.
  - The Commission should consider impact on Part 15 spread spectrum devices when authorizing **new** types of Part 18 devices.
  - Final decision on this matter should be delayed until the Commission has determined if the public interest is better served by establishing in-band emission limits for RF lighting devices *in order to minimize impact on Part 15 equipment.*
  - Promoters of RF Lighting devices and manufacturers of Part 15 spread spectrum equipment should engage in direct discussion to seek a mutually agreeable resolution.

# *Attachment: Possible RF Leakage Reduction Measures*



**Figure A1 Wire Screen Placed between Reflector and Light Pipe**

Placing a wire grid between parabolic reflector and light pipe could reduce RF leakage by over 98% while passing over 95% of the visible light, at a cost of pennies.